US00PP15752P2

(12) **United States Plant Patent**
Gilford et al.

(10) **Patent No.: US PP15,752 P2**
(45) **Date of Patent: May 3, 2005**

(54) **STRAWBERRY PLANT NAMED 'DRISCOLL OSCEOLA'**

(50) Latin Name: *Fragaria×ananassa*
Varietal Denomination: **Driscoll Osceola**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/679,035**

(22) Filed: **Oct. 2, 2003**

(51) **Int. Cl.**[7] **A01H 5/00**
(52) **U.S. Cl.** **Plt./209**
(58) **Field of Search** Plt./209, 208

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(57) **ABSTRACT**

This invention relates to a new and distinct variety of strawberry named 'Driscoll Osceola.' The variety is similar to the varieties 'Biscayne', and 'Madeira'. The variety is distinguished from 'Biscayne', and 'Madeira', in particular, by a an orange red internal color of the fruit, a fruiting truss length of about 16.6 cm, a flat terminal leaflet margin profile, an obtuse terminal leaflet teeth shape, a dense petiole pubescence, a cordate fruit shape, and a very narrow band without achenes on the fruit.

5 Drawing Sheets

Latin name of the genus and species of the plant claimed: The variety is botanically identified as *Fragaria×ananassa.*

BACKGROUND OF THE INVENTION

The new variety originated as a result of a controlled cross between the strawberry plants 'Marathon' (U.S. Plant Pat. No. 12,817) and 'Sonora' (U.S. Plant Pat. No. 13,386) in an ongoing breeding program, and was discovered as a seedling in Monterey Country, Calif. in 1999. The original seedling of the new cultivar was asexually propagated by stolons in a Shasta County, Calif. Propagules were transplanted to a controlled breeding plot in Monterey Country, Calif., where the variety was identified and selected for further evaluation. 'Driscoll Osceola' was subsequently asexually propagated and underwent further testing in Hillsbourough County, Fla. for three years. This propagation and testing has demonstrated that the combination of traits disclosed herein which characterize the new variety are fixed and retained true to type through successive generations of asexual reproduction.

SUMMARY OF THE INVENTION

The present invention relates to a new and distinct variety of strawberry named 'Driscoll Osceola'. The new variety is distinguished from other varieties by a number of characteristics as set forth in Tables 1 to 4.

COMPARISON TO SIMILAR VARIETIES

The varieties which we believe to be similar to 'Driscoll Osceola' from those known to us are 'Biscayne' (U.S. Plant Pat. No. 12,186) and 'Madeira' (U.S. Plant Pat. No. 14,109). There are several characteristics of the new variety that are different from, or not possessed by 'Biscayne' and 'Madeira'. The new variety is distinguished from 'Biscayne' and 'Madeira' by having, for example, an orange red internal color of the fruit, a fruiting truss length of about 16.6 cm, a flat terminal leaflet margin profile, an obtuse terminal leaflet teeth shape, a dense petiole pubescence, a cordate fruit shape, a very narrow band without achenes on the fruit, and

average petiole diameter of about 4.05 mm. The average petiole diameter was calculated from measurements taken in August 2004.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographs show typical specimens of the new variety, including fruit, foliage, and flowers, in color as nearly true as it is reasonably possible to make in color illustrations of these characteristics. The plants depicted in the photographs were planted in fields in Hillsborough County, Fla. in October 2002 and were about 5 months old at the time the photos were taken.

FIG. **1** shows the whole the plant.

FIG. **2** shows the upper side of the leaves of the plant.

FIG. **3** shows the under side and upperside of the flowers.

FIG. **4** shows the fruit in longitudinal cross-section.

FIG. **5** shows a close-up of the fruit.

DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new variety is based upon observations taken of plants and fruit grown in Hillsbourough County, Fla., U.S.A. This description is in accordance with UPOV terminology. Observations of 'Driscoll Osceola', 'Biscayne', and 'Madeira' were taken in side-by-side comparison in 2002–2003. Color designations, color descriptions, and other phenotypical descriptions may deviate from the stated values and descriptions depending upon variation in environmental, seasonal, climatic and cultural conditions. Colors are described and the most similar color designations are provided from The Royal Horticultural Society (R.H.S.) Colour Chart.

PROPAGATION

The new variety is principally propagated by way of stolons. Although propagation by stolons is presently preferred, other known methods of propagating strawberry plants may be employed.

CHARACTERISTICS OF THE NEW VARIETY

Information on the new variety is presented in Tables 1, 2, 3 and 4. In the tables, the flowers described are secondary flowers except where indicated. The fruit described is the secondary fruit on one-year-old plants. Flowers of 'Driscoll Osceola' are fully self-fertile and typical of the species. Plants of the parent plants of 'Driscoll Osceloa' were not available for side by side comparisons. 'Driscoll Osceola' differs from its maternal parent 'Marathon' (U.S. Plant Pat. No. 12,817) in having darker red fruit and superior shelf-life. 'Driscoll Osceola' differs from its paternal parent 'Sonora' (U.S. Plant Pat. No. 13,386) in that it is partially everbearing in comparison to 'Sonora' which is fully everbearing.

Table 1 provides information on the plant and fruit characteristics of the new variety 'Driscoll Osceola' compared with characteristics of 'Biscayne' and 'Madeira'. Table 2 provides additional information of the plant and fruit characteristics of the new variety 'Driscoll Osceola' compared with characteristics of the varieties 'Biscayne' and 'Madeira'. Table 3 provides reactions of the new variety to pests and diseases compared with reactions of the varieties 'Biscayne' and 'Madeira'. Table 4 provides isozyme characteristics of the new variety as compared to that of the varieties 'Biscayne' and 'Madeira'.

TABLE 1

QUANTITATIVE COMPARISON OF 'DRISCOLL OSCEOLA', 'BISCAYNE', AND 'MADEIRA'

	'DRISCOLL OSCEOLA'	'BISCAYNE'	'MADEIRA'
Plant Characteristics			
Height of Plant (cm)	13.7	13.5	15.8
Spread of Plant (cm)	34.5	32.6	36.1
Number of Crowns	3.8	5.2	4.2
Leaf Characteristics			
Terminal Leaflet Length (cm)	10.0	8.6	9.4
Terminal Leaflet Width (cm)	10.1	8.8	8.4
Terminal Leaflet Length/Width Ratio	0.99	0.98	1.12
# Teeth/Terminal Leaflet	25.6	23.8	18.8
Color of upper side	135B medium green	137A light green	147A dark green
Color of under side	138B light gray green	139C light gray green	137B light gray green
Petiole Length (cm)	10.6	11.7	11.0
Petiole Color	141C yellow-green	141D yellow-green	144B yellow-green
Bract Frequency	30% typically double	60% typically double	80% typically double
Stipule Length (cm)	4.2	3.5	3.2
Stipule Width (cm)	2.4	1.9	2.2
Stolon Characteristics			
Anthocyanin color	59D red purple	59B red purple	59C red purple
Diameter at bract (mm)	3.47	3.29	2.77
Avg. # of Daughter plants/Mother (2002 Nursery)	38	59	59
Flower Characteristics			
Petal Length (cm)	1.5	1.4	1.4
Petal Width (cm)	1.7	1.6	1.5
Petal Length/Width Ratio	0.91	0.85	0.91
Flower Diameter (cm)	3.6	3.5	3.3

TABLE 1-continued

QUANTITATIVE COMPARISON OF 'DRISCOLL OSCEOLA', 'BISCAYNE', AND 'MADEIRA'

	'DRISCOLL OSCEOLA'	'BISCAYNE'	'MADEIRA'
Calyx Diameter (cm)	5.0	4.6	4.1
Petal Color (cm)	155C white	155C white	155C white
Fruiting Truss Length (cm)	16.6	12.5	12.0
Fruit Characteristics			
Fruit Length (cm)	4.9	4.9	5.0
Fruit Width (cm)	3.7	4.1	4.3
Fruit Length/Width Ratio	1.34	1.20	1.18
Average Berry Weight (g)	27.5	24.7	24.3
External Color	46A dark red	46B red	46A dark red
Internal Color	48D orange red	44A medium red	43A medium red
2002–2003 Yield (g/plant)	222	143	247

TABLE 2

QUALITATIVE COMPARISON OF 'DRISCOLL OSCEOLA', 'BISCAYNE', AND 'MADEIRA'

	'DRISCOLL OSCEOLA'	'BISCAYNE'	'MADEIRA'
Plant			
Habit	flat globose	flat globose	flat globose
Density	open to medium	medium	medium
Vigor	medium	strong	strong
Leaf			
Shape in cross section	concave to slightly concave	concave	concave
Interveinal blistering	medium	weak	medium
Glossiness	medium	medium	medium
Number of leaflets	three only	three only	three only
Terminal leaflet margin profile	flat	revolute	revolute
Terminal leaflet shape of base	rounded	rounded	obtuse
Terminal leaflet shape of teeth	obtuse	rounded	rounded
Stipule pubescence	medium	medium	medium
Petiole pubescence	dense	medium	medium
Petiole pose of hairs	outwards to downwards	outwards	downwards
Stolon			
Amount	medium	many	many
Anthocyanin coloration	medium to strong	strong	strong to very strong
Thickness	medium to thick	medium	medium to thick
Pubescence	dense	medium	medium
Inflorescence			
Position relative to foliage	level with to above	level	beneath
Diameter of calyx relative to corolla on secondary flowers	larger	larger	larger
Diameter of inner calyx relative to outer on secondary flowers	smaller to same size	same size	same size
Spacing of petals	overlapping	overlapping	overlapping

TABLE 2-continued

QUALITATIVE COMPARISON OF 'DRISCOLL OSCEOLA', 'BISCAYNE', AND 'MADEIRA'

	'DRISCOLL OSCEOLA'	'BISCAYNE'	'MADEIRA'
Fruiting Truss			
Attitude at first picking	prostrate	prostrate	prostrate
Fruit			
Predominant shape	cordate	conical	conical
Difference in shapes between primary and secondary fruits	slight	slight	slight
Band without achenes	very narrow	narrow	narrow
Unevenness of surface	weak	weak	weak
Evenness of color uneven	slightly uneven	even	even
Glossiness	strong	strong	strong
Insertion of achenes	below surface	level with surface	level with surface
Insertion of calyx	level	level	level
Pose of the calyx segments	spreading to reflexed	spreading	reflexed
Size of calyx in relation to fruit on secondary fruit	same size to larger	larger	smaller
Adherence of calyx	strong	strong	strong
Firmness of flesh	soft to medium	firm	medium
Evenness of flesh color	slightly uneven	slightly uneven	slightly uneven
Distribution of flesh color	marginal and central	marginal and central	marginal and central
Hollow center size	medium	large	medium
Sweetness	medium	strong	weak to medium
Texture when tasted	fine	fine	fine
Acidity	medium	medium	weak to medium
Time of Flowering	very early	early	very early
Harvest Interval in 2002–2003	late November through late March	early December through late March	late November through late March
Type of Bearing	partially everbearing	partially everbearing	partially everbearing

REACTION TO STRESS, PESTS, AND DISEASE

TABLE 3

REACTIONS TO PESTS AND DISEASES FOR 'DRISCOLL OSCEOLA', 'BISCAYNE', AND 'MADEIRA'

	'DRISCOLL OSCEOLA'	'BISCAYNE'	'MADEIRA'
Reaction to Pests			
Tetranychus urticae	susceptible	susceptible	susceptible
Lygus hesperus	susceptible	susceptible	susceptible
Reaction To Diseases			
Botrytis fruit rot	susceptible	susceptible	susceptible
Powdery mildew	moderately susceptible	moderately susceptible	moderately susceptible
Verticillium wilt	susceptible	susceptible	moderately susceptible
Strawberry Mottle Virus	susceptible	susceptible	partially resistant
Xanthomonas fragariae	moderately susceptible	moderately susceptible	moderately susceptible

ISOZYME ANALYSIS

In addition to the morphological description above, the new cultivar 'Driscoll Osceola' has been analyzed to obtain an indication of its genetic makeup to provide further means for identifying the new variety and distinguishing it from other somewhat similar and/or related strawberry varieties. Specifically, leaf samples of 'Driscoll Osceola', 'Biscayne', and 'Madeira' were analyzed by electrophoresis for isozyme patterns of the enzymes phosphoglucoisomerase ("PGI"), leucine aminopeptidase ("LAP") and phosphoglucomutase ("PGM"). See J. Amer. Soc. Hort. Sci. 106:684–687. Isozyme characterization of the three varieties is presented in Table 4, with the letters representing the banding patterns for each enzyme as designated in the above-identified article.

TABLE 4

ISOZYME ANALYSIS FOR 'DRISCOLL OSCEOLA', 'BISCAYNE', AND 'MADEIRA'

Locus	'Driscoll Osceola'	'Biscayne'	'Madeira'
PGI	A1	A1	A1
LAP	B3	B3	B1
PGM	C4	C4	C2

What is claimed:

1. A new and distinct variety of strawberry plant, substantially as shown and described.

* * * * *

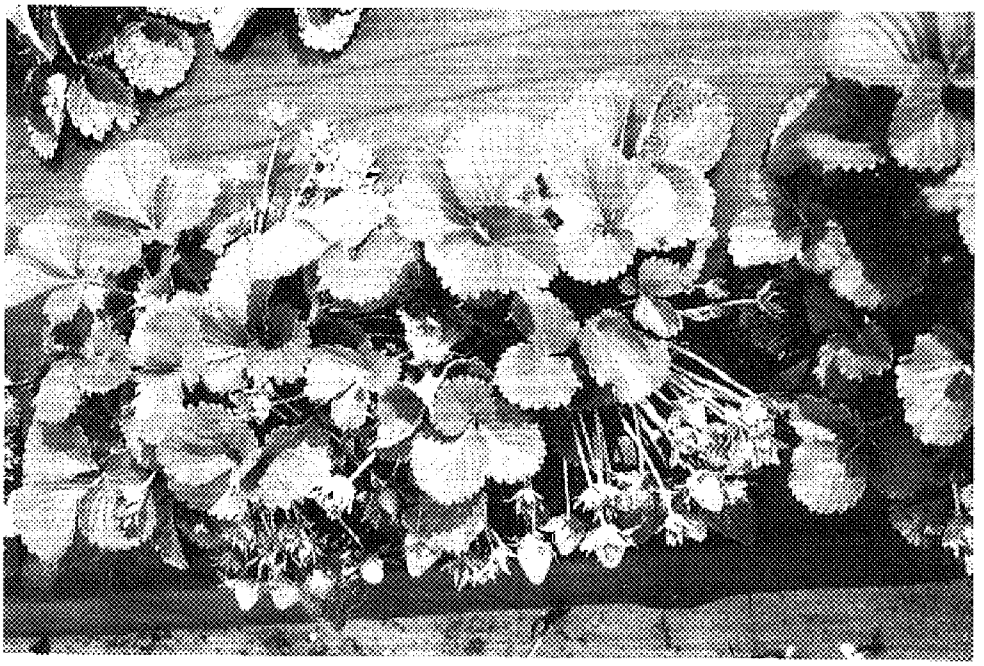

Figure 1

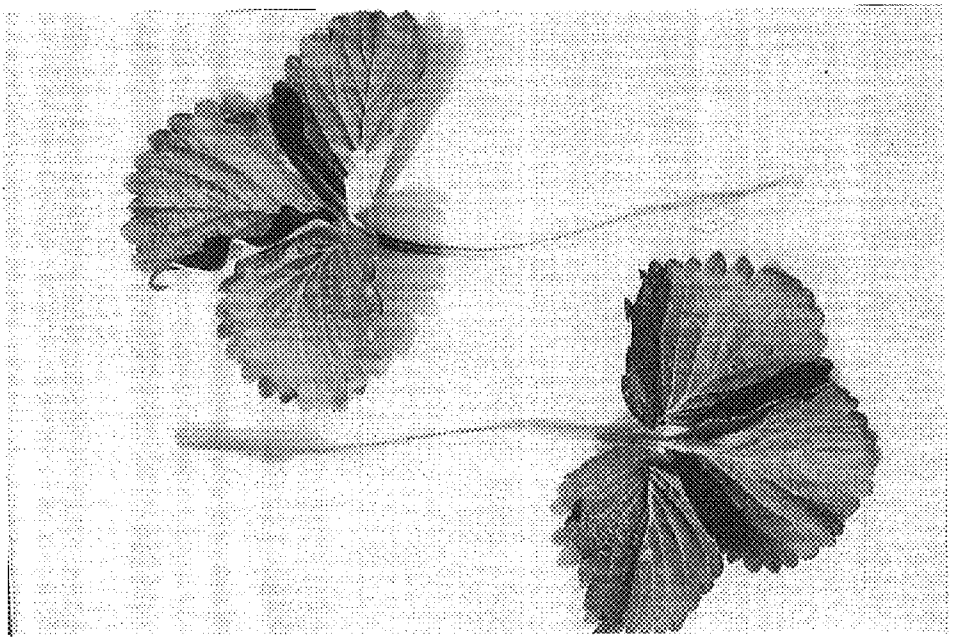

Figure 2

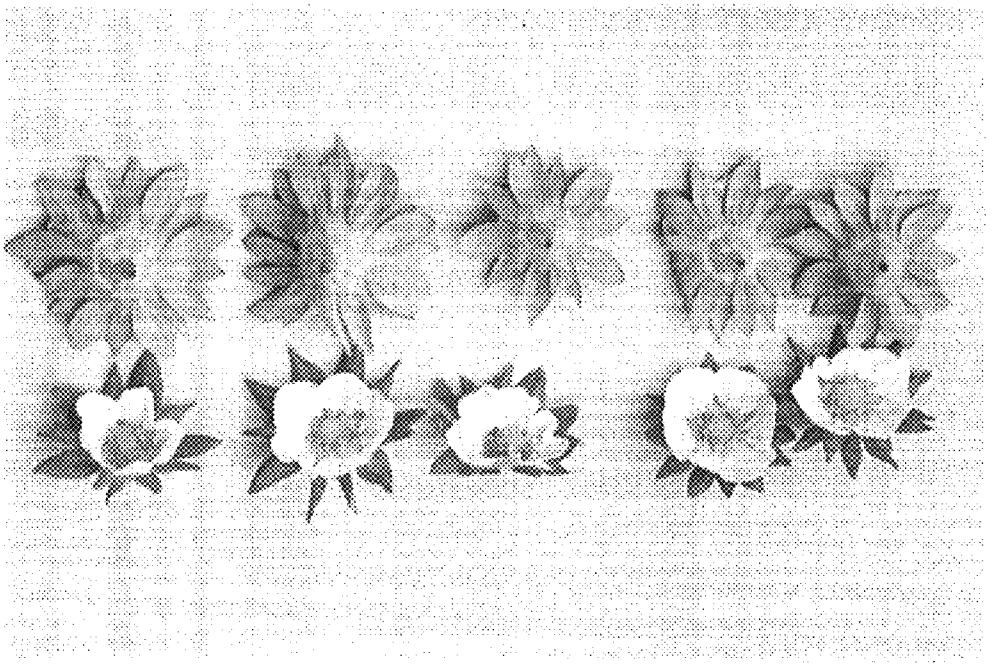

Figure 3

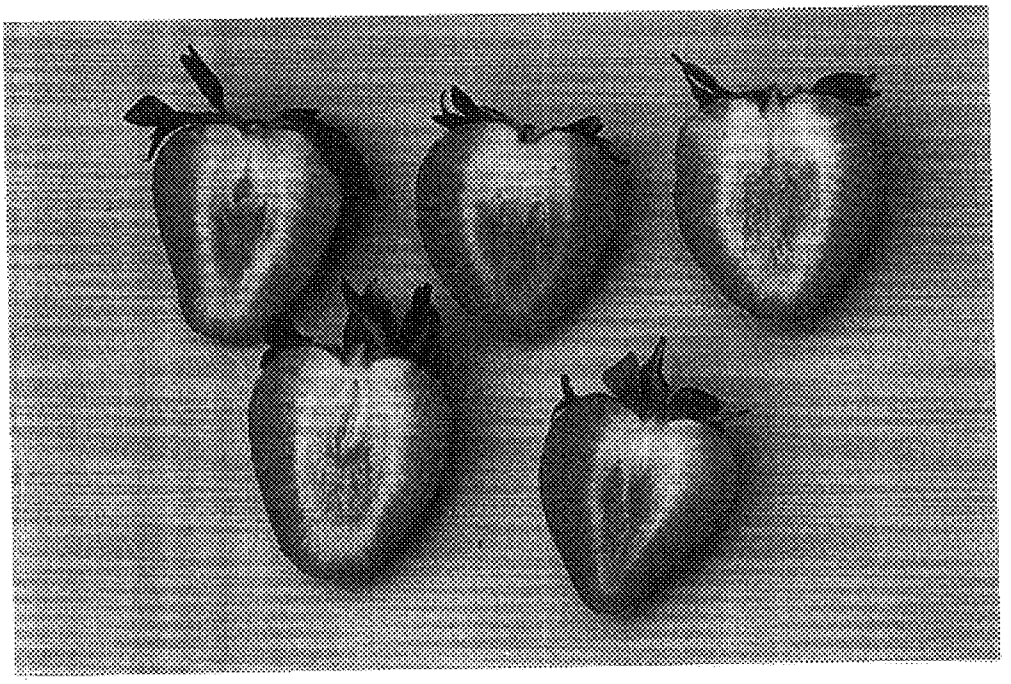

Figure 4

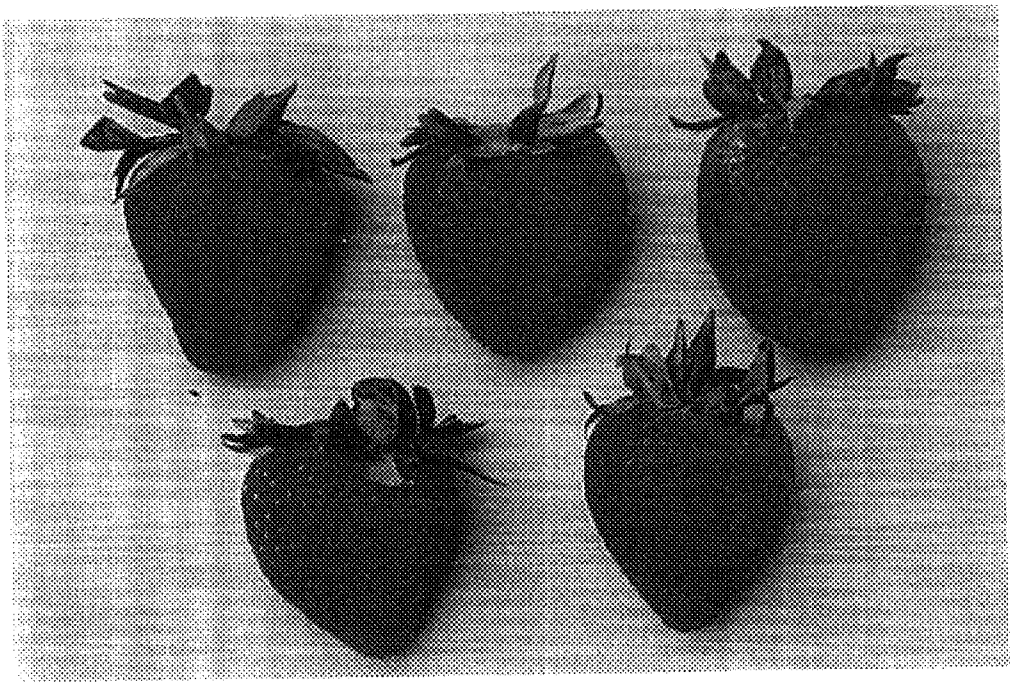

Figure 5